DrägerService Mode

1 General Information About the Configuration Mode (CM)/ DrägerService Mode (DSM)

The Configuration Mode (CM) and the DrägerService Mode (DSM) are displayed on the LCD of Babytherm 8004/8010. In the Configuration Mode, the customer can initiate tests c01 to c08 and the error memory (Err). The DrägerService Mode (DSM) consists of the error memory (Err), tests c01 to c08, and d01 to d22. The DrägerService Mode is intended for use by the DrägerService technicians.

1.1 Abbreviations

Abbreviation	Explanation
but	Key test
CFI	Device configuration
CON	Contrast setting of the text display
DSM	DrägerService Mode
HEA	Mattress heater/radiant heater
LAN	Language version
Nuc	Nurse call
PFS	Power failure switch
rEL	Relay of the mattress heater / relay of the radiant heater / relay of the phototherapy / relay of work lamp 1 / relay of work lamp 2
Sde	Maximum skin temperature deviation

1.2 Response in the Event of a Technical Fault

If the Babytherm 8004/8010 detects a technical fault, the corresponding message is displayed on the 7-segment display (skin temperature display).

All tests can be initiated normally even if there is a technical fault.

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1.3 Overview of Modes Available in the DSM

DrägerService Mode Number	Mode
"Mode c01: Displaying the Software Version"	CM
"Mode c02: Adjusting the Maximum Skin Temperature Deviation"	CM
"Mode c03: Adjusting the Soft alarm Start Volume"	CM
"Mode c04: Displaying/Resetting the Operating Time Meter of the Phototherapy"	CM
"Mode c05: Testing the Keyboard"	CM
"Mode c06: Testing the Nurse Call"	CM
"Mode c07: Selecting the Language Version"	CM
"Mode c08: Adjusting the Contrast of the Text Display"	CM
"Mode d01: Configuration of the Mattress Heater/ Adjusting the Device Configuration"	DSM
"Mode d02: Performance at 15-Min Alarm"	DSM
"Mode d03: Testing the Mattress Temperature Channel 1 (Babytherm 8010)"	DSM
"Mode d04: Testing the Mattress Temperature Channel 2 (Babytherm 8010)"	DSM
"Mode d05: Testing the Mattress Temperature Channel 3 (Babytherm 8010)"	DSM
"Mode d06: Testing the Mattress Temperature Channel 4 (Babytherm 8010)"	DSM
"Mode d07: Displaying the GoldCap Voltage"	DSM
"Mode d08: Displaying the Analog-to-Digital Converter Test Channel"	DSM
"Mode d09: Displaying the LED Voltage"	DSM
"Mode d10: Displaying WT Sensor PCB Voltage"	DSM
"Mode d11: Displaying the Time of Watchdog 1"	DSM
"Mode d12: Displaying the Time of Watchdog 2"	DSM
"Mode d13: Testing the Solid State Relay of the Mattress Heater (Babytherm 8010)"	DSM
"Mode d14: Switching the Mattress Heater On/Off (Babytherm 8010)"	DSM
"Mode d15: Testing the Power Failure Contact of the ON/OFF Switch"	DSM
"Mode d16: Displaying the Skin Temperature Channel 1 and the Reference Value"	DSM
"Mode d17: Displaying the Skin Temperature Channel 2 and the Reference Value"	DSM
"Mode d18: Testing the Solid State Relay of the Radiant Heater"	DSM
"Mode d19: Switching the Radiant Heater On/Off"	DSM
"Mode d20: Testing the Relay of the Phototherapy"	DSM
"Mode d21: Testing the Relay of the Energy-Saving Lamp 1 (Nightlight)"	DSM
"Mode d22: Testing the Relay of the Energy-Saving Lamp 2 (Worklight Without Nightlight)"	DSM

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2 Configuration Mode

2.1 Accessing the Configuration Mode

The Configuration Mode can be accessed any time during normal operation.

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

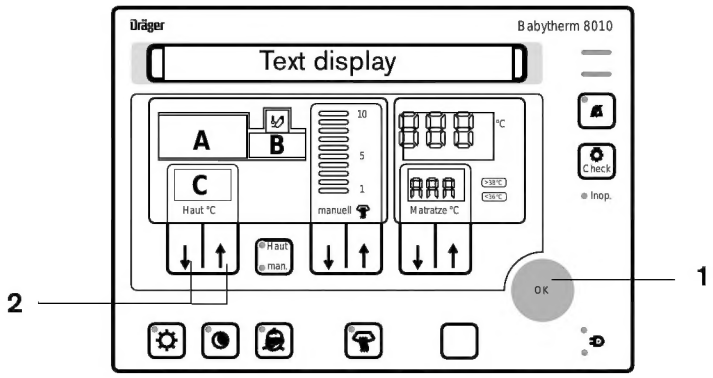

Fig. 1: Accessing the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

If you do not confirm access to the Configuration Mode by pressing the OK button **1** within approx. 8 seconds, the Babytherm 8004/8010 will return to normal operation.

Message on the text display:

Configuration Mode Mode c01: Software version

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A short signal sounds and then the Configuration Mode is active. The Babytherm is now in the “c01” mode and shows the current software version on the 7-segment displays **A** (see Figure below).

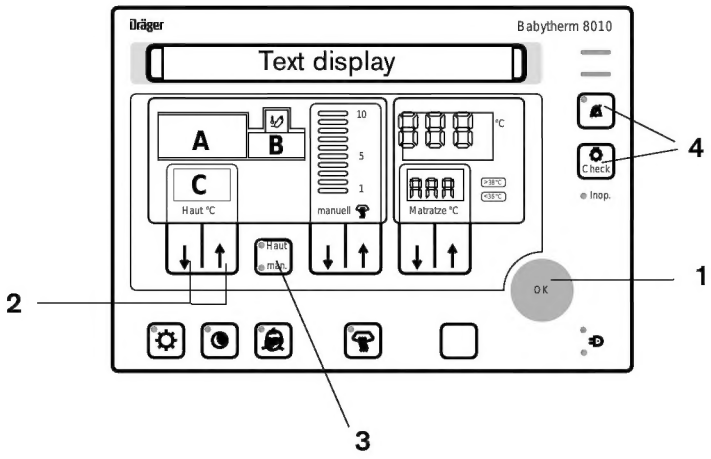

Fig. 2: Accessing the Configuration Mode

- Use the arrow keys **2** to select mode c01 to c08.

You can select the error memory by pressing the skin/man key **3**.

Example: “Mode c07”. Message on the text display:

Configuration Mode Mode c07: language -> German

The 7-segment displays **A** (see Figure above) show the text “LAN”.

- If necessary, select the desired language using the keys **4**.
- Confirm the selection of the new language by pressing the OK button **1**.

2.2 Exiting the Configuration Mode

- Press the OK button to exit the Configuration Mode **1**.

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2.2.1 Mode c01: Displaying the Software Version

Mode c01 is used to display the software version.

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

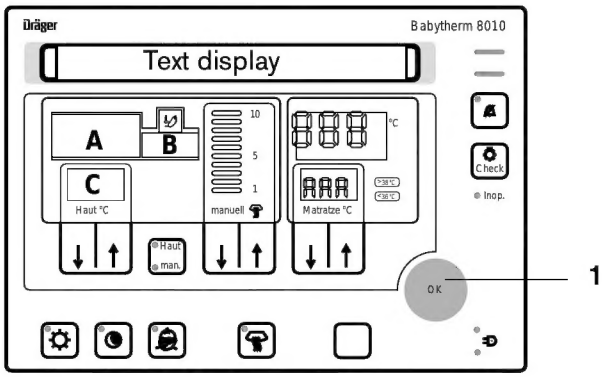

Fig. 3: Using the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

Message on the text display:

Configuration Mode Mode c01: Software version

The software version is shown on the 7-segment display **A**.

Exiting the Configuration Mode

- Press the OK button to exit the Configuration Mode **1**.

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2.2.2 Mode c02: Adjusting the Maximum Skin Temperature Deviation

Mode c02 is used to adjust the maximum value of the skin temperature deviation as an alarm limit. The skin temperature deviation can be adjusted in the range of 0.3 °C to 1.0 °C. The standard Dräger setting is “0.5”.

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

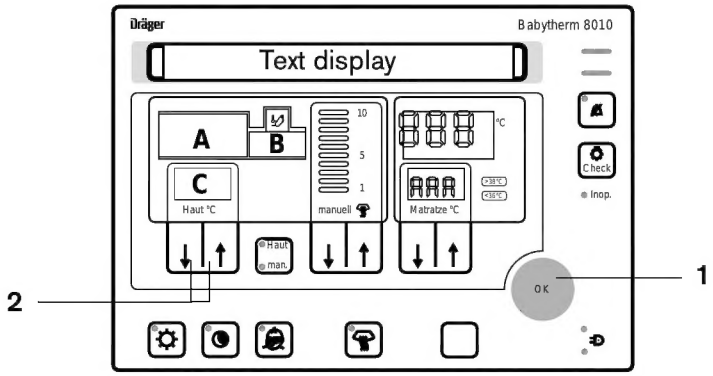

Fig. 4: Using the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

Message on the text display:

Configuration Mode Mode c01: Software version

- Select the mode c02 using the arrow keys **2** (see Figure above).

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Message on the text display:

Configuration Mode Mode c02: Max. skin temperature fault

"SdE" is shown on the 7-segment display **A**. The adjusted maximum value of skin temperature deviation is shown on the 7-segment display **B** (for example, 0.5).

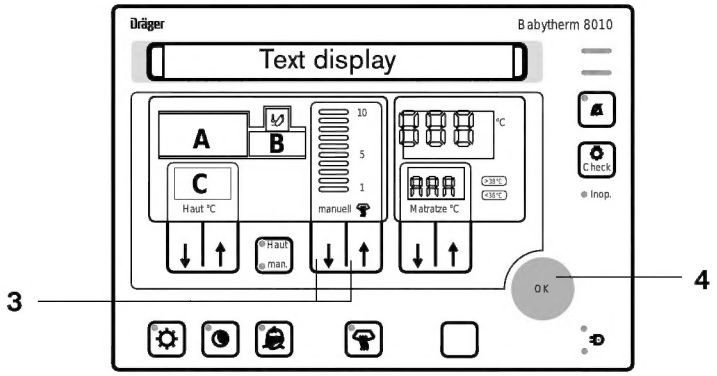

Fig. 5: Using the Configuration Mode

- Press the check key **3** to adjust the maximum value of the skin temperature deviation between 0.3 °C and 1.0 °C.
- Press the OK button **4** to store the adjusted maximum skin temperature deviation.

Exiting the Configuration Mode

- Press the OK button to exit the Configuration Mode **4**.

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2.2.3 Mode c03: Adjusting the Soft alarm Start Volume

Mode c03 is used to adjust the start volume of the alarm tone sequence (soft alarm). The soft alarm volume can be adjusted from level 1 to 8. Level “2” is the factory default setting. The standard Dräger setting is “2”.

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

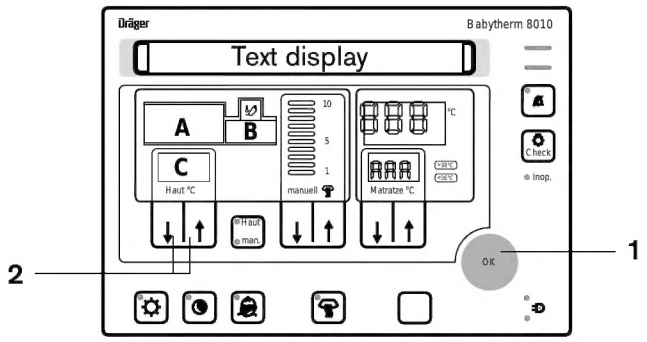

Fig. 6: Using the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

Message on the text display:

Configuration Mode Mode c01: Software version

- Select mode c03 using the arrow keys **2** (see Figure above).

Message on the text display:

Configuration Mode Mode c03: Softalarm startvolume

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The 7-segment display **A** shows “SSL”. The 7-segment display **B** shows the volume of the adjusted soft alarm (e.g. 2).

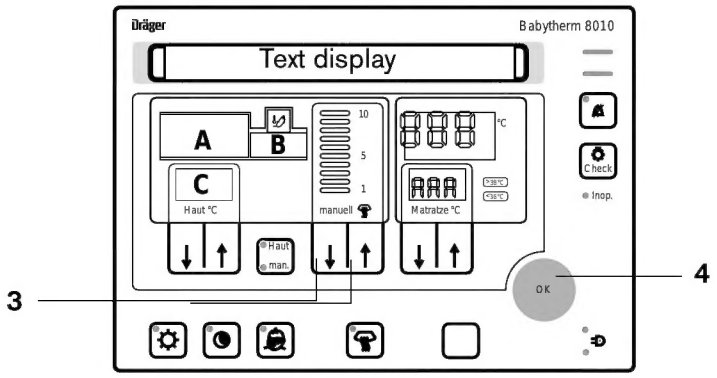

Fig. 7: Using the Configuration Mode

- Press the arrow keys **3** to adjust the volume of the soft alarm.

Exiting the Configuration Mode

- Press the OK button to exit the Configuration Mode **4**.

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2.2.4 Mode c04: Displaying/Resetting the Operating Time Meter of the Phototherapy

Mode c04 is used to display/reset the operating time meter of the phototherapy.

Displaying the Operating Time Meter of the Phototherapy

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

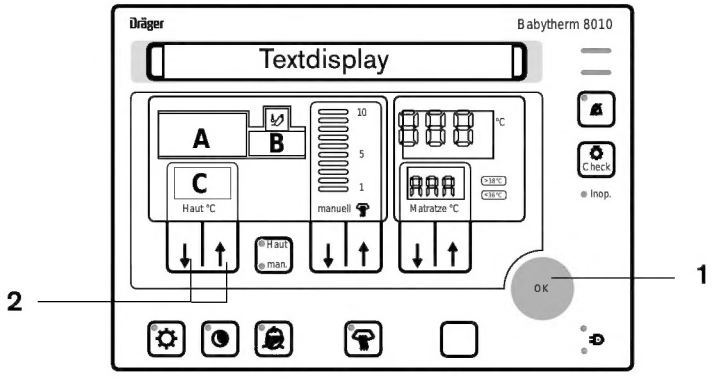

Fig. 8: Using the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

Message on the text display:

Configuration Mode Mode c01: Software-Version

- Select mode c04 using the arrow keys **2.**

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Message on the text display:

Configuration Mode Mode c04: Time counter photo therapie

- Press the OK button **1** (see Figure below).

The operating time is shown on the 7-segment displays **A** and **B.**

Resetting the Operating Time Meter of the Phototherapy

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

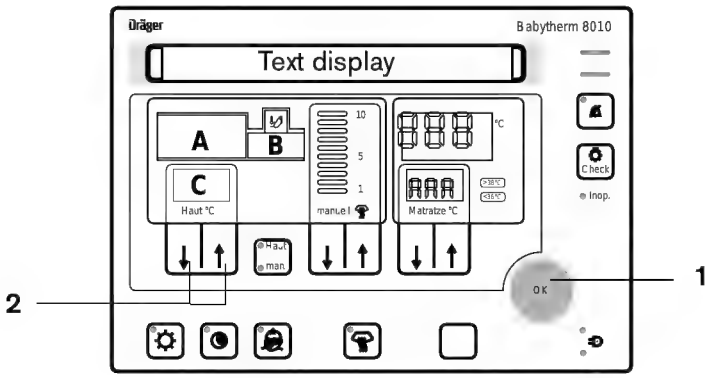

Fig. 9: Using the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

Message on the text display:

Configuration Mode Mode c01: Software-Version

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- Select mode c04 using the arrow keys **2** (see Figure below).

Message on the text display:

Configuration Mode Mode c04: Time counter photo therapie

- To reset the operating time meter of the phototherapy, press the alarm silence key **3** for at least three seconds.

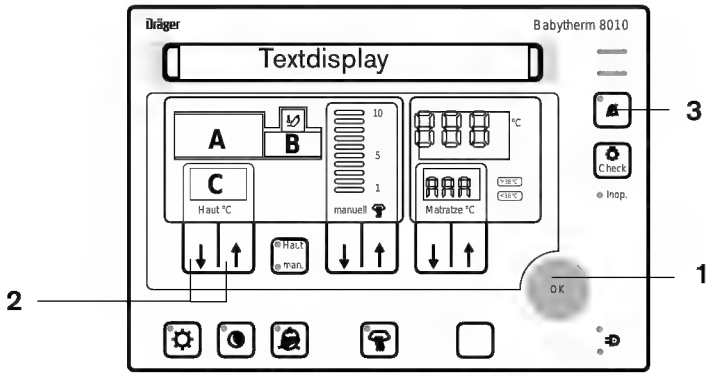

Fig. 10: Using the Configuration Mode

- Press the OK button to exit the Configuration Mode **1**.

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2.2.5 Mode c05: Testing the Keyboard

Mode c05 is used to test the control module.

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

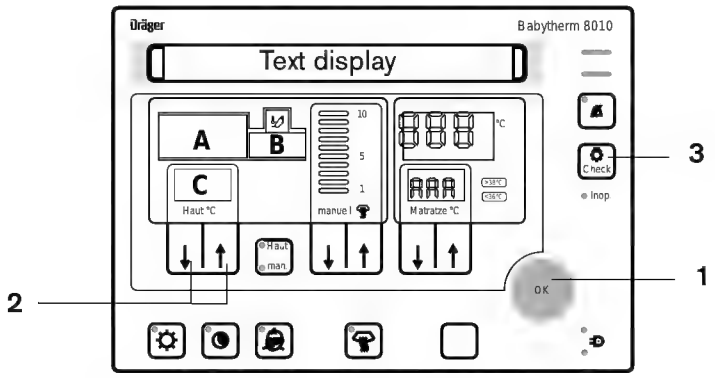

Fig. 11: Using the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

Message on the text display:

Configuration Mode Mode c01: Software-Version

- Select mode c05 using the arrow keys **2.**

Message on the text display:

Configuration Mode Mode c05: Keyboardtest (inactive)

The message “but” is shown on the 7-segment display **A**.

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- Press the check key **3** to start the keyboard test.

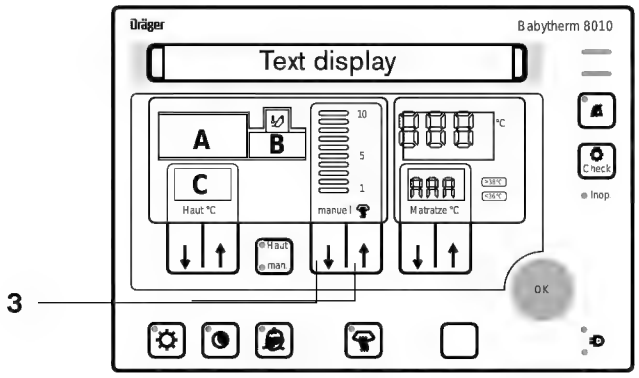

Fig. 12: Front view of the control module

Message on the text display:

Configuration Mode Mode c05: Keyboardtest (active)

"0 0" is shown on the 7-segment display **B**.

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- If you press the individual keys (except the OK button), the following number codes will be shown on the 7-segment display **B**:

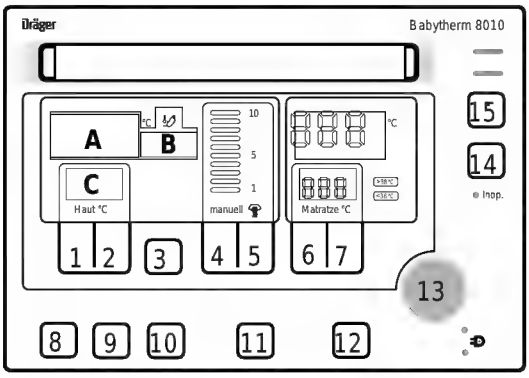

Fig. 13: Front view of the control module

Key pressed	Code shown on the 7-segment display B
1	1 1
2	1 2
3	1 3
4	1 4
5	1 5
6	1 6
7	1 7
8	1 8
9	1 9
10	1 10
11	1 11
12	1 12
13	1 13
14	1 14
15	1 15

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The first number of the code shown on the 7-segment display **B** stands for the amount of keys pressed. The second number stands for the number of the activated key (see Figure above).

- Press the check key **4** for approximately two seconds to stop the keyboard test.

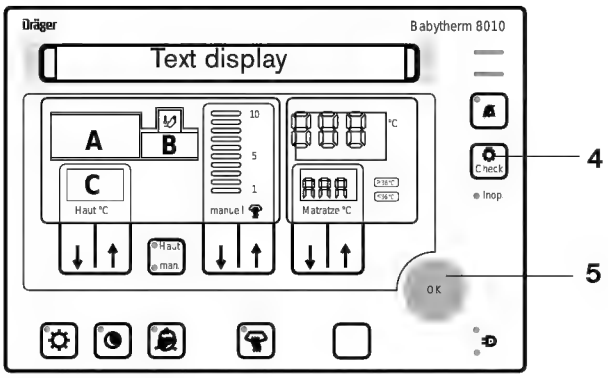

Fig. 14: Using the Configuration Mode

Message on the text display:

Configuration Mode Mode c05: Keyboardtest (inactive)

- Press the OK button to exit the Configuration Mode **5**.

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2.2.6 Mode c06: Testing the Nurse Call

Mode c06 is used to test the relay of the nurse call.

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

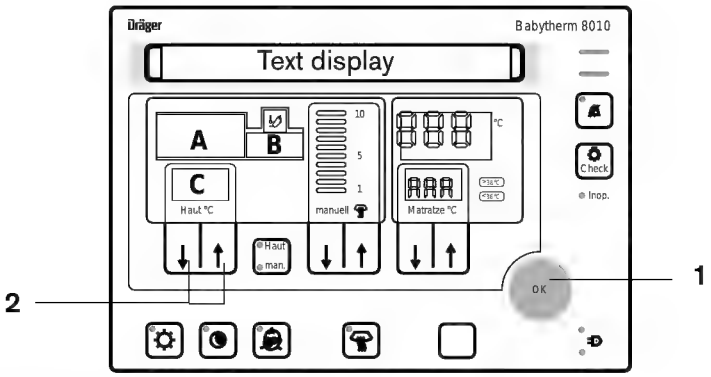

Fig. 15: Using the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

Message on the text display:

Configuration Mode Mode c01: Software-Version

- Select mode c06 using the arrow keys **2.**

Message on the text display:

Configuration Mode Mode c06: Nurse Call Relay

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- Press the check key **3**.

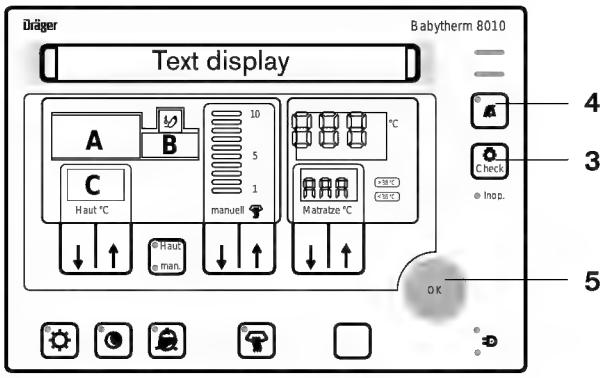

Fig. 16: Using the Configuration Mode

A nurse call relay is switched. “Nuc” appears on the 7-segment display **A**.

- Press the alarm silence key **4**.

The nurse call relay is activated. The Inop LED in the control module and the central alarm light in the radiant heater light up. The continuous audible alarm sounds.

- Press the OK button to exit the Configuration Mode **5**.

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2.2.7 Mode c07: Selecting the Language Version

Mode c07 is used to select the language version. The standard Dräger setting is “1 = German).

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

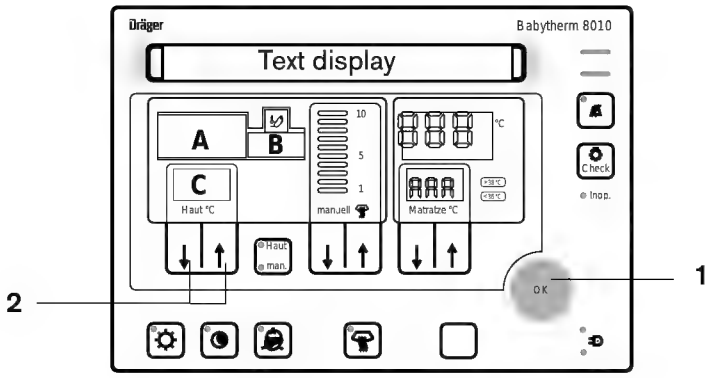

Fig. 17: Using the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

Message on the text display:

Configuration Mode Mode c01: Software-Version

- Select mode c07 using the arrow keys **2** (see Figure above).

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Message on the text display:

Configuration Mode Mode c07: Display language -> English

- Where appropriate, press the check key **3** to select another language.

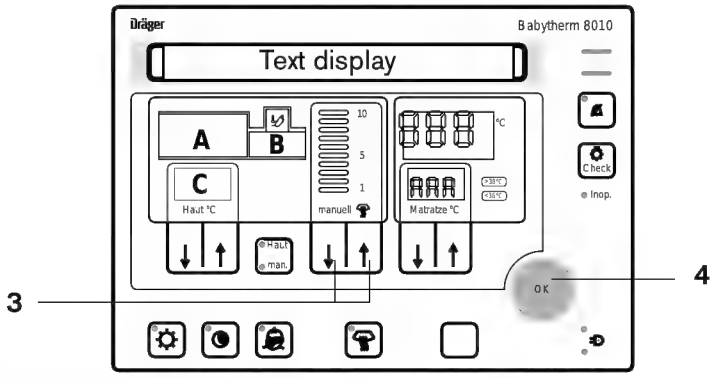

Fig. 18: Using the Configuration Mode

"LAN" is shown on the 7-segment display **A**.

The language code number is shown on the 7-segment display **B** (1 = German, 2 = English, 3 = French, 4 = Dutch, 5 = Swedish, 6 = Italian, 7 = Spanish, 8 = Danish, 9 = Portuguese, 10 = Norwegian, 11 = Finnish).

- Press the OK button to exit the Configuration Mode **4**.

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2.2.8 Mode c08: Adjusting the Contrast of the Text Display

Mode c08 is used to increase or decrease the contrast of the text display from step 1 to step 255. The factory default setting is “128”.

- Switch on the Babytherm and wait until the intermittent test sound stops.

The Babytherm runs a self-test. The message "adjust heating level, press OK to confirm" appears on the text display.

- Press the OK button **1** for 3 seconds.

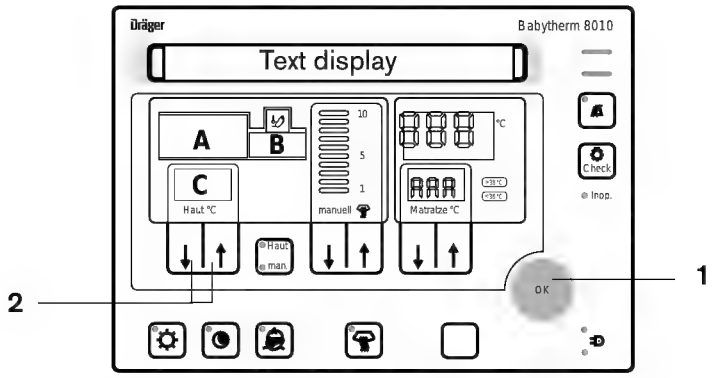

Fig. 19: Using the Configuration Mode

Message on the text display:

Configuration Mode Press OK-button to start

- Confirm access to the Configuration Mode by pressing the OK button **1** again.

Message on the text display:

Configuration Mode Mode c01: Software-Version

- Select mode c08 using the arrow keys **2.**

Message on the text display:

Configuration Mode Mode c08: Display contrast

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"CON" is shown on the 7-segment display **A**.

The adjusted contrast is shown on the 7-segment display **B** (1 to 255).

- Press the check key **3** to adjust the contrast.

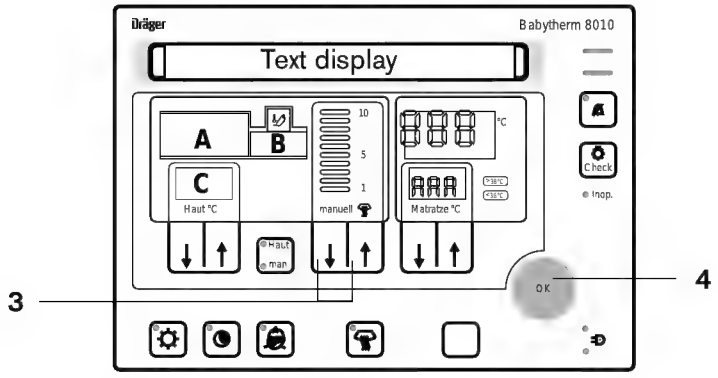

Fig. 20: Using the Configuration Mode

- Press the OK button to exit the Configuration Mode **4**.

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3 DrägerService Mode

3.1 Accessing the DrägerService Mode

The DrägerService Mode is intended for DrägerService technicians. The DrägerService Mode covers the service modes c01 to c08, the error memory (Err), and modes d01 to d22.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

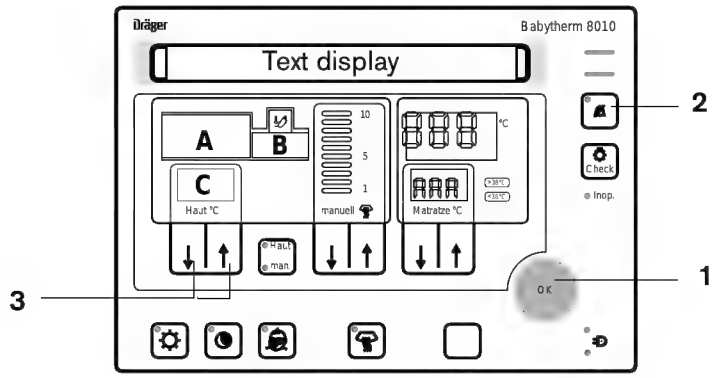

Fig. 21: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

The error memory is shown on the text display. “F – –”” (no error) is shown on the 7-segment display **A**. The error frequency is shown on the 7-segment display **B**.

The errors can be read out with the arrow keys **3**. All errors can be cleared by pressing the alarm silence key **2** for 3 seconds.

- Press the skin/man key **4** (see Figure below).

The configuration mode is shown on the text display.

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Message on the text display:

DrägerService Mode Mode c01: Software version

- Press the skin/man key **4** again.

Message on the text display:

DrägerService Mode Mode d01: Configuration (mattress heater)

- Use the arrow keys **5** to select the desired mode d01 to d22.

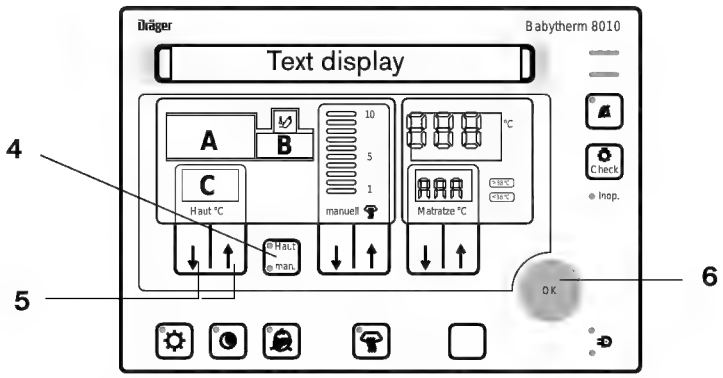

Fig. 22: Accessing the DrägerService Mode

3.2 Exiting the Extended DrägerService Mode

- To exit the DrägerService Mode, press the OK button **6** for 3 seconds.

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3.2.1 Mode d01: Configuration of the Mattress Heater/ Adjusting the Device Configuration

Mode d01 is used to adjust the device configuration (mattress heater, phototherapy (optional), interface). The check key is used to select the mattress heater/optional phototherapy, or the interface. The OK key is used to deactivate or deactivate the respective device configuration.

If in mode d01 the mattress heater/optional phototherapy or the interface is switched to "0" (deactivated), the mattress heater/optional phototherapy or the interface cannot be switched on during normal operation of the Babytherm.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

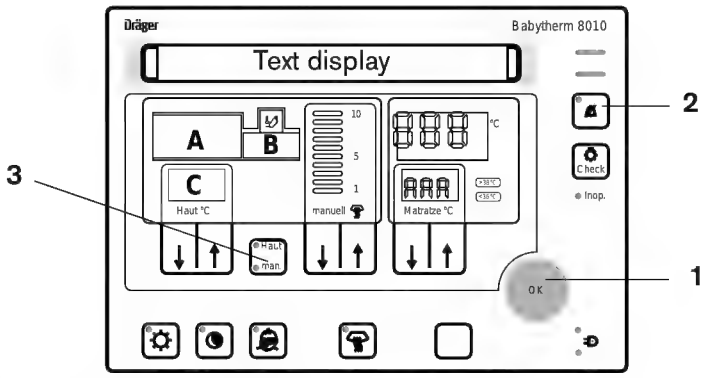

Fig. 23: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.

Message on the text display:

DrägerService Mode Mode d01: Configuration (mattress heater)

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"CFI" is shown on the 7-segment display **A**.

The left-hand part of the 7-segment display **B** shows the configuration (1 mattress heater, 2 phototherapy, 3 interface), the right-hand part shows the respective configuration status (1 = activated, 0 = deactivated).

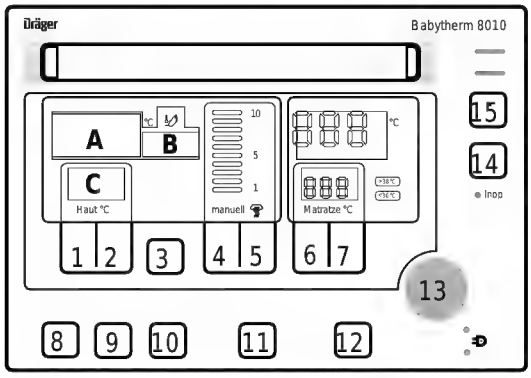

Fig. 24: Babytherm 8010

Example:

2 1 shown in the 7-segment display **B** means: 2 = phototherapy, 1 = phototherapy is activated.

- Press the check key to select the mattress heater/optional phototherapy or the interface.
- Press the silence key to activate or deactivate the mattress heater/optional phototherapy/interface.
- Press and hold the OK key for 3 seconds to exit the DrägerService Mode.

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3.2.2 Mode d02: Performance at 15-Min Alarm

In mode d02, the radiant heater performance can be adjusted after a non-acknowledged 15-min-alarm. The 15-min-alarm is active when the manually adjusted radiant heater output is in the yellow range. In the DrägerService Mode, the adjustable output is 0% (worldwide, except USA) or 20% (only USA) of the manually adjusted radiant heater output. The radiant heater output can be selected using the silence key.

Adjustment to 20% is only allowed in the USA.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

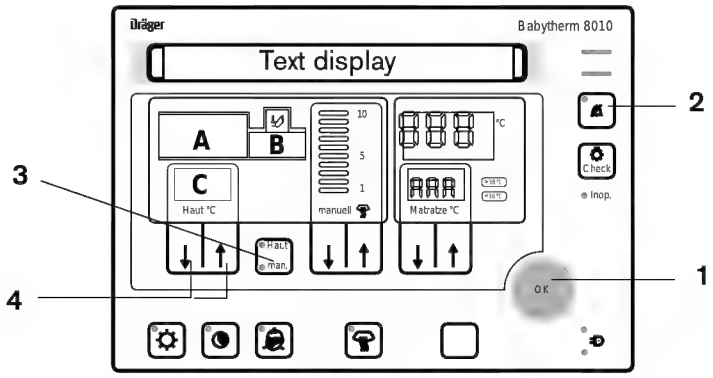

Fig. 25: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d02 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d02: Heater level at 15-min-alarm

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- Press the Silence key to perform the heater level.

Message on the text display:

20% only allowed in the USA ! Press OK-button to confirm

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.3 Mode d03: Testing the Mattress Temperature Channel 1 (Babytherm 8010)

Mode d03 is used to measure and display the current temperature value and the status of the high temperature comparator (0 = no high temperature; 1 = high temperature).

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

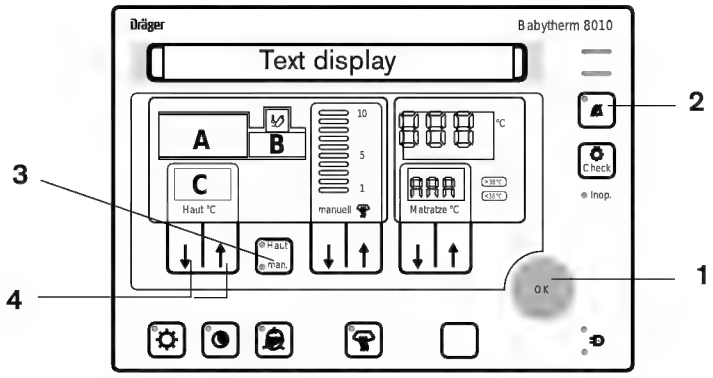

Fig. 26: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d03 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d03: Mattresstemp.-Channel 1

The current mattress temperature is shown on the 7-segment display **A**.

The status of the high temperature comparator is shown on the 7-segment display **B** (0 = no high temperature; 1 = high temperature.)

- Press and hold the check key.

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The Babytherm 8010 switches over to high temperature. The 7-segment display **A** shows approximately 41.6 °C (±0.2 °C). The 7-segment display **B** shows "1" (status of the high temperature comparator).

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.4 Mode d04: Testing the Mattress Temperature Channel 2 (Babytherm 8010)

Mode d04 is used to displays the current mattress temperature.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

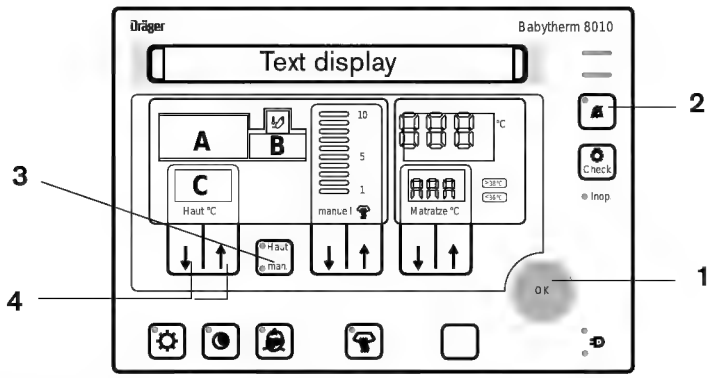

Fig. 27: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d04 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d04: Mattresstemp.-Channel 2

The current mattress temperature value appears on the 7-segment display **A**.

Important:

The current mattress temperature value must not deviate by more than 0.5 °C from the temperature displayed in mode d03.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.5 Mode d05: Testing the Mattress Temperature Channel 3 (Babytherm 8010)

Mode d05 is used to display the current mattress temperature and the status of the high temperature comparator.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

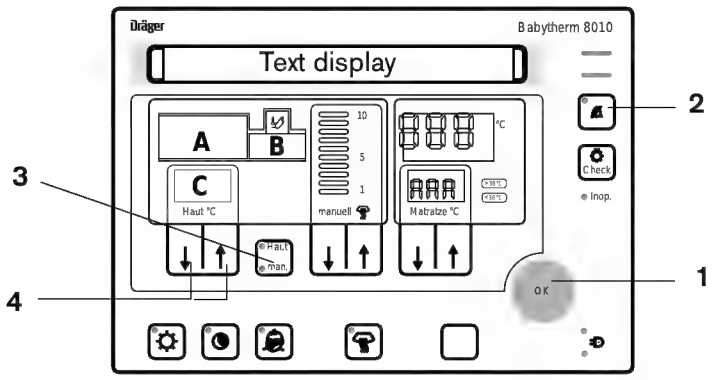

Fig. 28: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d05 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d05: Mattresstemp.-Channel 3

The current mattress temperature is shown on the 7-segment display **A**. The status of the high temperature comparator is shown on the 7-segment display **B** (0 = no high temperature; 1 = high temperature.)

- Press and hold the check key.

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The Babytherm 8010 switches over to high temperature. The the 7-segment display **A** shows approximately 41.6 °C (±0.2 °C). The the 7-segment display **B** shows "1" (status of the high temperature comparator).

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.6 Mode d06: Testing the Mattress Temperature Channel 4 (Babytherm 8010)

Mode d06 is used to display the current mattress temperature.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

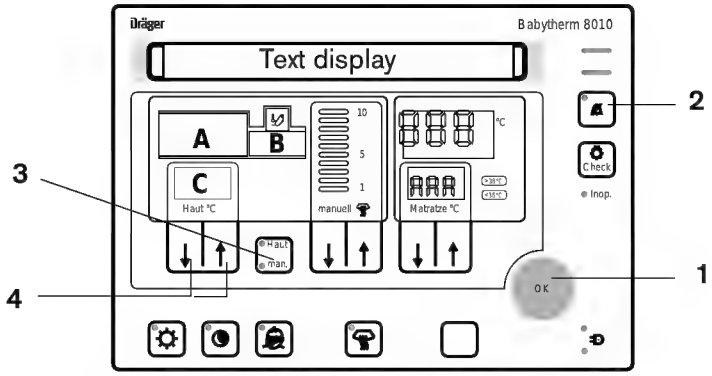

Fig. 29: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d06 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d06: Mattresstemp.-Channel 4

The current mattress temperature value appears on the 7-segment display **A**.

The current mattress temperature value must not deviate by more than 0.5 °C from the temperature displayed in mode d05.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.7 Mode d07: Displaying the GoldCap Voltage

Mode d07 is used to display the GoldCap voltage and to switch off the charging voltage.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

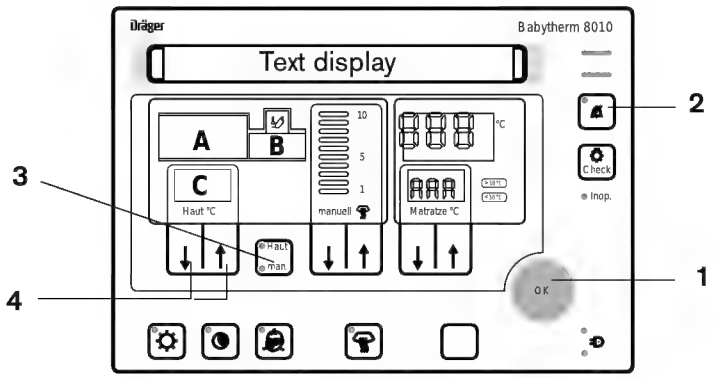

Fig. 30: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d07 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d07: Goldcap voltage

The GoldCap voltage is shown on the 7-segment display **A** (approx. 4.7 V). The charging status is shown on display **B** (1 = charging voltage present; 2 = charging voltage not present).

- Press the check key.

The Babytherm switches the charging voltage off. “0” appears on the 7-segment display **B**.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.8 Mode d08: Displaying the Analog-to-Digital Converter Test Channel

Mode d08 is used to display the voltage present at the test channel of the analog-to-digital converter.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

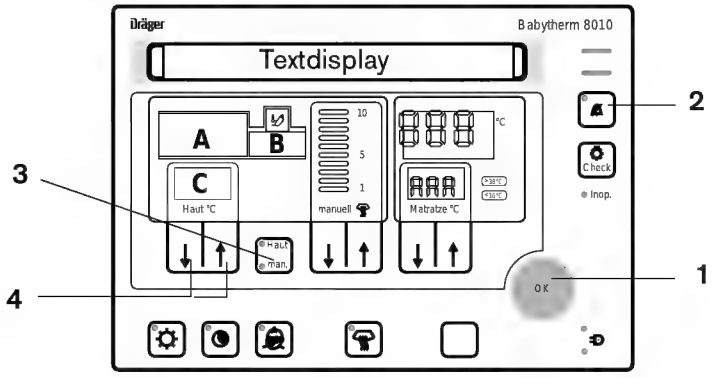

Fig. 31: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d08 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d08: ADC testchannel

Approximately 5 V are shown on the 7-segment display **A**.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.9 Mode d09: Displaying the LED Voltage

Mode d09 is used to display the LED voltage.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

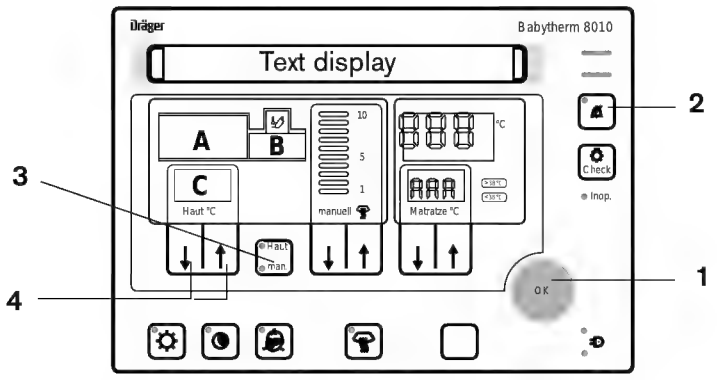

Fig. 32: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d09 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d09: LED Voltage

Approximately 5 V appear on the 7-segment display **A**.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.10 Mode d10: Displaying WT Sensor PCB Voltage

Mode d10 is used to display the current operating voltage (approx. 5 VD) of the WT Sensor PCB.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

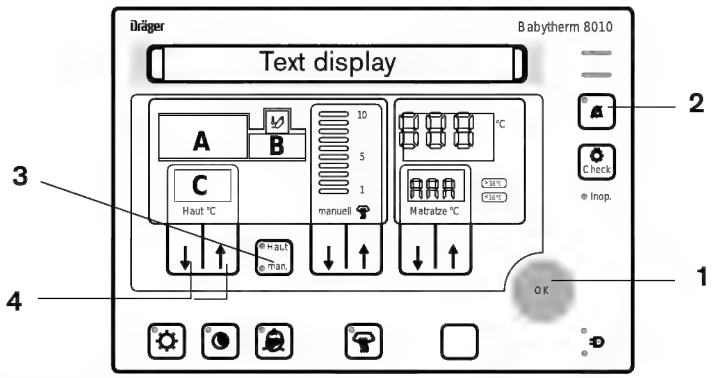

Fig. 33: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d10 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d10: Voltage PCB-Sensor

Approximately 5 V appear on the 7-segment display **A**.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.11 Mode d11: Displaying the Time of Watchdog 1

Mode d11 is used to display the monostable time of watchdog 1 in milliseconds.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

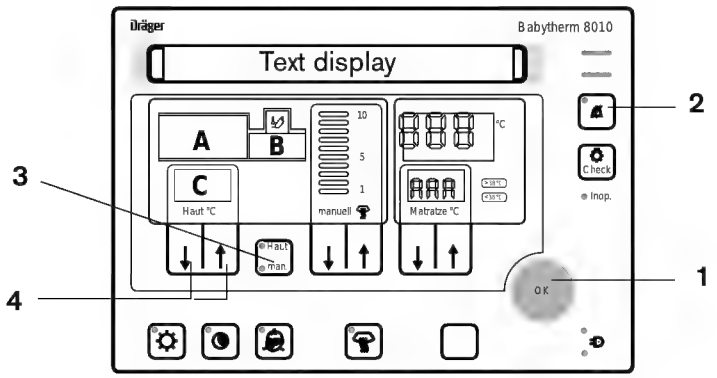

Fig. 34: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d11 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d11: Time Watchdog 1

Approximately 250 milliseconds are shown on the 7-segment display **A**.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.12 Mode d12: Displaying the Time of Watchdog 2

Mode d12 is used to display the monostable time of watchdog 2 in milliseconds.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

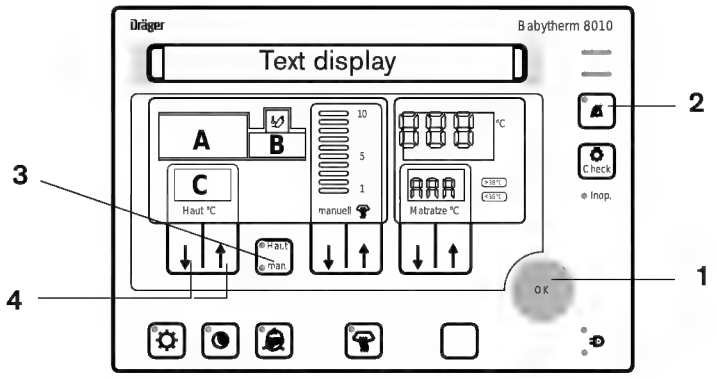

Fig. 35: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d12 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d12: Time Watchdog 2

Approximately 250 milliseconds are shown on the 7-segment display **A**.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.13 Mode d13: Testing the Solid State Relay of the Mattress Heater (Babytherm 8010)

Mode d13 is used to test the status of the solid state relay of the mattress heater. Pressing the check key will switch over the solid state relay.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

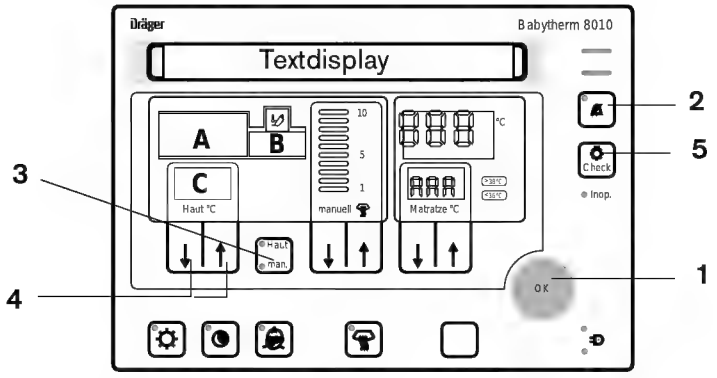

Fig. 36: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d13 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d13: Solid state relay mattress

"rEL" is shown on the 7-segment display **A**.

- Press the check key **5**.

The Babytherm 8010 changes over the solid state relay.

The response from the high temperature switch off path is shown on the **B** the 7-segment display (1 = solid state relay on; 0 = solid state relay off).

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Before exiting mode d13, switch on the solid state relay of the mattress heater (relay = 1).

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.14 Mode d14: Switching the Mattress Heater On/Off (Babytherm 8010)

Mode d14 is used to automatically switch on/off the mattress heater. A mattress heater switch on/off series, which lasts 60 seconds, is initiated.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

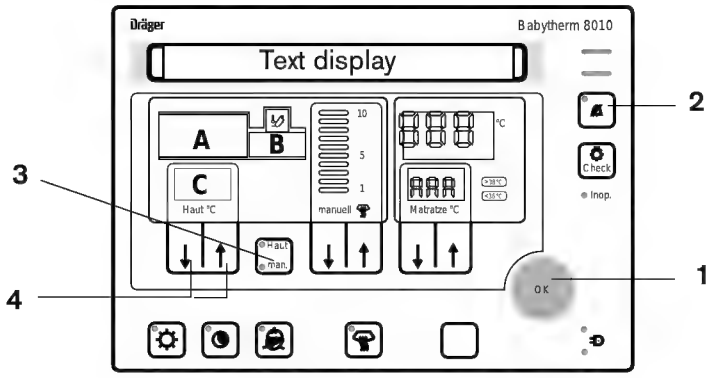

Fig. 37: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d14 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d14: Mattress heater on/off

"HEA" is shown on the 7-segment display **A**.

The requested switching status **X** and the response from the mattress heater **Y** are shown on the 7-segment display **B**.

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Meaning of the display X or Y:

- X = 0: heater switched off
- X = 1: heater switched on
- Y = 0: heater recognized as switched off
- Y = 1: heater recognized as switched on

- Press the check key.

For a period of 60 seconds, the Babytherm switches the mattress heater on and off. “0 0” and “1 1” are shown alternately on the 7-segment display **B**.

No response status occurs if the solid state relay has been switched off in mode d13.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.15 Mode d15: Testing the Power Failure Contact of the ON/OFF Switch

Mode d15 is used to detect the position of the power failure contact of the main switch.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

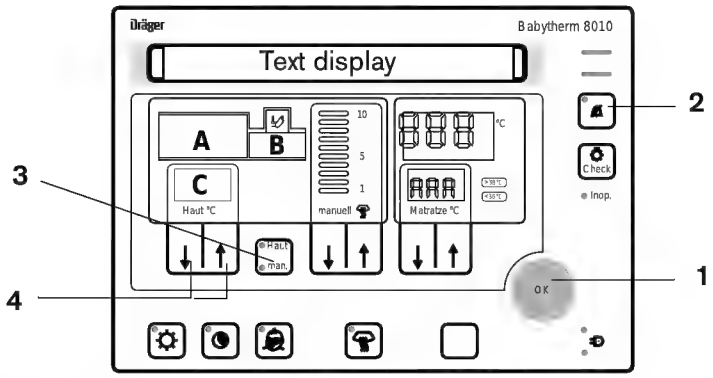

Fig. 38: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d15 using the arrow keys **4.**

Message on the text display:

DrägerService Mode Mode d15: Main switch

"PFS" is shown on the 7-segment display **A**. "1" appears on the 7-segment display **B**.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.16 Mode d16: Displaying the Skin Temperature Channel 1 and the Reference Value

Mode d16 is used to display the current skin temperature of channel 1 on the 7-segment display (X = 0: sensor position; X = 1: reference-value position). Pressing the check key will switch over to the reference value (36.0 °C) of the skin temperature channel 1.

Displaying the Skin Temperature Channel 1

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

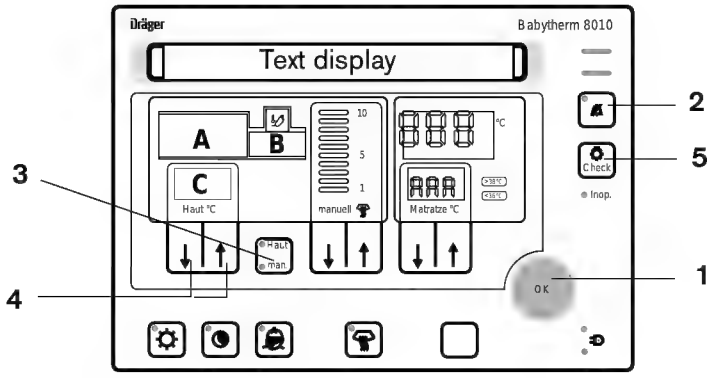

Fig. 39: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d16 using the arrow keys **4.**

DrägerService Mode Mode d16: Skintemp.-Channel 1

The current value of the skin temperature channel 1 appears on the 7-segment display **A**.

The position of the analog-value switch is shown on the 7-segment display **B** (0 = sensor position; 1 = reference-value position).

Displaying the Reference Value

- Press and hold the check key **5**.

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The reference value 36.0 °C (±0.2 °C) is shown on the 7-segment display **A**.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.17 Mode d17: Displaying the Skin Temperature Channel 2 and the Reference Value

Mode d17 is used to display the current skin temperature of channel 2 on the 7-segment display (0 = sensor position; 1 = reference-value position). Pressing the check key will switch over to the reference value (36.0 °C) of the skin temperature channel 2.

Displaying the Skin Temperature Channel 2

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

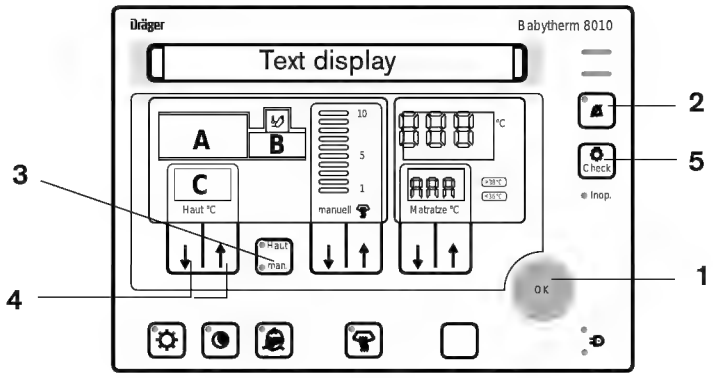

Fig. 40: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d17 using the arrow keys **4.**

DrägerService Mode Mode d17: Skintemp.-Channel 2

The measured value of skin temperature channel 2 appears on the 7-segment display **A**.

The position of the analog-value switch is shown on the 7-segment display **B** (0 = sensor position; 1 = reference-value position).

Displaying the Reference Value

- Press and hold the check key **5**.

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The reference value 36.0 °C (±0.2 °C) is shown on the 7-segment display **A**.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.18 Mode d18: Testing the Solid State Relay of the Radiant Heater

Mode d18 is used to test the status of the solid state relay of the radiant heater (1 = solid state relay on; 0 = solid state relay off).

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

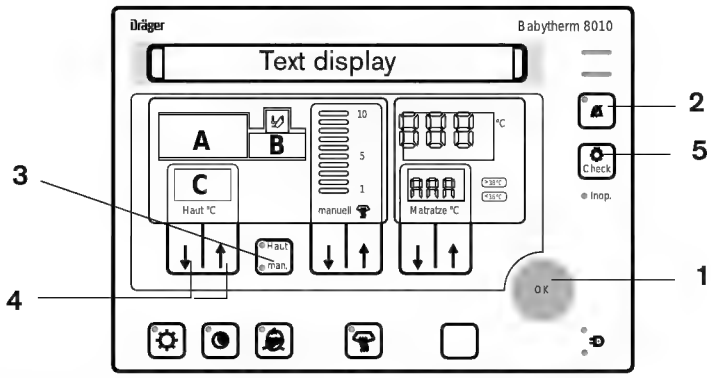

Fig. 41: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d18 using the arrow keys **4.**

DrägerService Mode Mode d18: Solid state relay rad. heater

"rEL" is shown on the 7-segment display **A**.

The status of the solid state relay is shown on the 7-segment display **B** (1 = solid state relay on; 0 = solid state relay off)

- Press the check key **5**.

The solid state relay of the radiant heater is switched over.

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Before exiting mode d18, switch on the solid state relay of the radiant heater (1 = solid state relay on).

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.19 Mode d19: Switching the Radiant Heater On/Off

Mode d19 is used to switch the radiant heater on/off using a switch on/off series which lasts 60 seconds. The requested switching status **X** and the response from the radiant heater **Y** are shown on the 7-segment display **B**.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

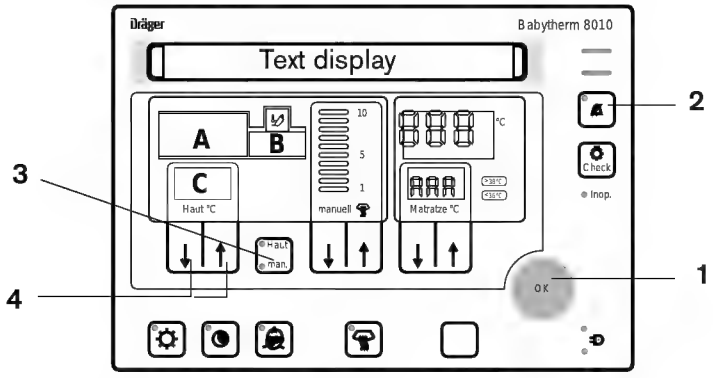

Fig. 42: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d19 using the arrow keys **4.**

DrägerService Mode Mode d19: Radiant heater on/off

"HEA" is shown on the 7-segment display **A**.

The requested switching status **X** and the response from the radiant heater **Y** are shown on the 7-segment display **B**.

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Meaning of the display X or Y:

- X = 0: Radiant heater switched off
- X = 1: Radiant heater switched on
- Y = 0: Radiant heater recognized as switched off
- Y = 1: Radiant heater recognized as switched on

- Press the check key **5**.

For a period of 60 seconds, the Babytherm switches the radiant heater on and off. “0 0” and “1 1” are shown alternately on the 7-segment display **B**.

No response status will be displayed if the safety relay has been switched off in mode d18.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.20 Mode d20: Testing the Relay of the Phototherapy

Mode d20 is used to display the status of the phototherapy relay. Pressing the check key will switch over the phototherapy relay.

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

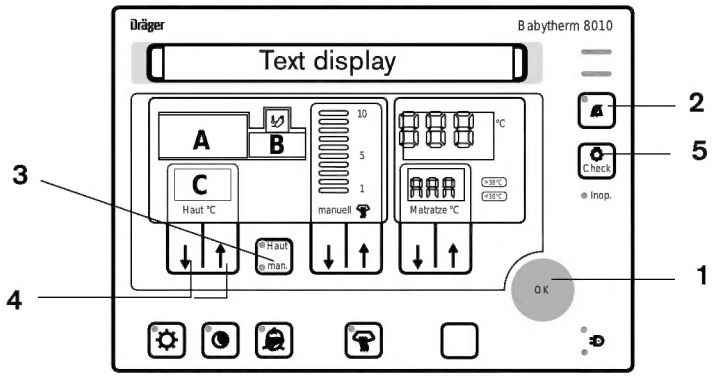

Fig. 43: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3**.
- Select mode d20 using the arrow keys **4.**

DrägerService Mode Mode d20: Relay photo therapie

"rEL" is shown on the 7-segment display **A**.

The relay status is shown on the 7-segment display **B** (0 = phototherapy relay off; 1 = phototherapy relay on).

- Press the check key **5**.

The phototherapy relay is switched over. The phototherapy lamps are switched on.

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If the Babytherm is not equipped with phototherapy lamps, switch off the phototherapy relay before exiting mode d20.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.21 Mode d21: Testing the Relay of the Energy-Saving Lamp 1 (Nightlight)

Mode d21 is used to display the status of the relay of energy-saving lamp 1 (nightlight). Pressing the check key will switch over the relay of the energy-saving lamp 1 (nightlight).

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

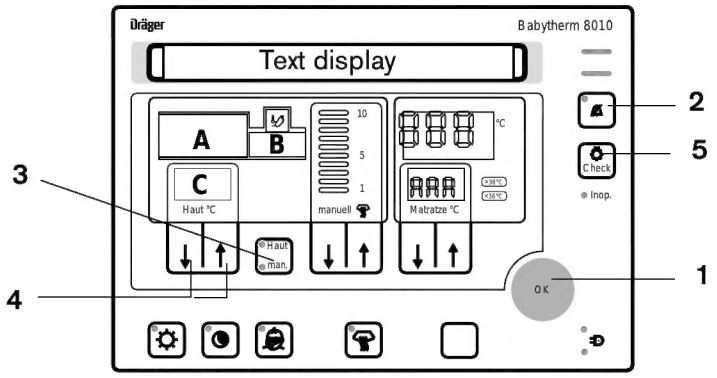

Fig. 44: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d21 using the arrow keys **4.**

DrägerService Mode Mode d21: Relay nightlight

"rEL" is shown on the 7-segment display **A**.

The relay status is shown on the 7-segment display **B** (0 = relay off, 1 = relay on).

- Press the check key **5**.

The relay of the energy-saving lamp 1 (nightlight) and the energy-saving lamp 1 (nightlight) are switched on or off.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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3.2.22 Mode d22: Testing the Relay of the Energy-Saving Lamp 2 (Worklight Without Nightlight)

Mode d22 is used to display the status of the relay of the energy-saving lamp 2 (worklight without nightlight). Pressing the check key will switch over the relay of the energy-saving lamp 2 (worklight without nightlight).

- Switch on the Babytherm and wait until the intermittent test sound stops.
- Press the OK button **1** and the alarm silence key **2** simultaneously for 5 seconds.

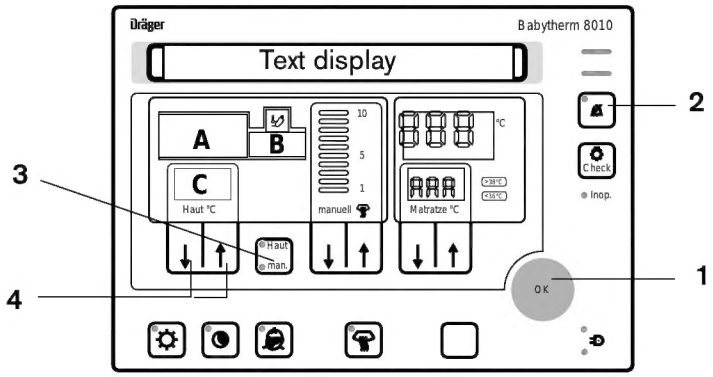

Fig. 45: Accessing the DrägerService Mode

Message on the text display:

DrägerService Mode Error Memory

- Press the skin/man key **3** twice.
- Select mode d22 using the arrow keys **4.**

DrägerService Mode Mode d22: Relay daylight

"rEL" is shown on the 7-segment display **A**.

The relay status is shown on the 7-segment display **B** (0 = relay off, 1 = relay on).

- Press the check key **5**.

The relay of the energy-saving lamp 2 (worklight without nightlight) and the energy-saving lamp 2 are switched on or off.

- To exit the DrägerService Mode, press the OK button for 3 seconds.

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